

What is claimed is:

1. A heat-curable molding material pellet comprising a heat-curable epoxy-containing material, a thermoplastic component and a curing agent for said epoxy-containing material, wherein said pellet has a multiphase structure comprising a core containing a first heat-curable component and a sheath containing a second heat-curable component, disposed at least partially around the periphery of said core.
2. The heat-curable molding material pellet as claimed in claim 1, wherein said epoxy-containing material and said thermoplastic component are contained in said first heat-curable component and said curing agent and said thermoplastic component are contained in said second heat-curable component.
3. The heat-curable molding material pellet as claimed in claim 1, wherein said curing agent and said thermoplastic component are contained in said first heat-curable component and said epoxy-containing material and said thermoplastic component are contained in said second heat-curable component.
4. The heat-curable molding material pellet as claimed in claim 1, wherein said thermoplastic component and said curing agent are contained in said first heat-curable component, said thermoplastic component and said curing accelerator are contained in said second heat-curing component, and said epoxy-containing material is contained in either one or both of said first heat-curing component and said second heat-curing component.
5. The heat-curable molding material pellet as claimed in claim 4, wherein said curing agent is a dicyandiamide, an organic acid hydrazide, an acid, an acid anhydride or a combination thereof, and said curing accelerator is an imidazole, a tertiary amine compound or a combination thereof.
6. The heat-curable molding material pellet as claimed in any one of claims 1 to 5, wherein said epoxy-containing material contains an epoxidized thermoplastic resin and serves also as a thermoplastic component.

7. The heat-curable molding material pellet as claimed in claim 6, wherein said epoxidized thermoplastic resin contains an ethylene-glycidyl (meth)acrylate copolymer.

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8. The heat-curable molding material pellet as claimed in any one of claims 1 to 7, wherein said sheath partially, mostly or completely surrounds said core.

9. The heat-curable molding material pellet as claimed in any one of claims 1 to 7, wherein said pellet has a multilayer structure that is generally cylindrical in shape, with said core having one or both ends exposed.

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10. The heat-curable molding material pellet as claimed in any one of claims 1 to 7, wherein said pellet has a multilayer structure comprising alternating layers of said heat-curable components disposed one on top of the other.

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11. The heat-curable molding material pellet as claimed in claim 10, wherein said core comprises a core layer of said first heat-curable component, said sheath comprises two sheath layers of said second heat-curable component, and said core layer is sandwiched between said sheath layers.

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12. The heat-curable molding material pellet as claimed in any one of claims 1 to 7, wherein said pellet is generally spherical or particle-like in shape, with said core being completely or at least mostly encased by said sheath.

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13. The heat-curable molding material pellet as claimed in any one of claims 1 to 7, wherein said sheath is in the form of a matrix, and said pellet comprises multiple cores of said first heat-curable component embedded in said matrix.

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14. The heat-curable molding material pellet as claimed in claim 13, wherein a portion of one or more of said cores is exposed.

15. The heat-curable molding material pellet as claimed in claim 13, wherein each of said cores is completely or at least mostly surrounded by said matrix.

16. A method of making an article comprising:
5 forming a plurality of pellets into a fully cured, partially cured or uncured article, wherein at least one of the pellets is a pellet as claimed in any one of claims 1 to 15.

17. The method as claimed in claim 16, wherein most or each of the pellets is a pellet as claimed in any one of claims 1 to 15.

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18. The method as claimed in claim 16 or 17 further comprising:
mixing the plurality of pellets with a mixing device that uses a single screw, has a relatively low kneading capacity or both.

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19. The method as claimed in any one of claims 16 to 18 further comprising:
melting/kneading the plurality of pellets to form a heat-curable molding material, said melting/kneading occurring at a temperature lower than the curing temperature of the heat-curable molding material,

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wherein the thermoplastic component is a resin which can be melted/kneaded at a temperature lower than the curing temperature of the heat-curable molding material, and a partially cured or an uncured article is obtained from said method.

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20. The method as claimed in any one of claims 16 to 18 further comprising:
melting/kneading the plurality of pellets to form a heat-curable molding material, said melting/kneading occurring at a temperature lower than the curing temperature of the heat-curable molding material;

forming the heat-curable molding material into a partially cured or uncured article;
and

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forming the partially cured or uncured article into a mostly cured or fully cured article and at a temperature equal to or higher than the curing temperature of the heat-curable molding material,

wherein the thermoplastic component is a resin which can be melted/kneaded at a

temperature lower than the curing temperature of the heat-curable molding material.

21. The method as claimed in any one of claims 16 to 18 further comprising:
melting/kneading the plurality of pellets to form a heat-curable molding material,
5 said melting/kneading occurring at a temperature equal to or higher than the curing
temperature of the heat-curable molding material,
wherein a mostly cured or fully cured article is obtained from said method.

22. An article made according to the method as claimed in any one of claims
10 16 to 21.